



# NORLITE, LLC

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February 18, 2014

Ms. Nancy Baker  
Deputy Regional Permit Administrator  
New York State Department of Environmental Conservation  
Region 4  
1130 North Westcott Road  
Schenectady, NY 12306-2014

RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Kenneth Eng  
Air Compliance Branch  
United States Environmental Protection Agency  
Region 2  
290 Broadway  
New York, NY 10007-1866

RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite Corporation-MACT Excessive Exceedances Report  
Kiln 1: 01/29/14 – 02/13/14  
Kiln 2: 01/29/14 – 02/13/14

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), the Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 01/29/14 thru 02/13/14. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the span limit associated with the stack gas flow monitor. All of the stack gas cutoffs were attributed to either water droplets from the Mist Pad contacting the stack gas probe or water vapor in the stack condensing from the probe caused it to fault. Attempts were made to adjust the ID fan speed to combat the water droplet movement without significant success. Norlite will be taking Kiln 2 down to address scrubber issues which should eliminate water droplets from the Mist Pad contacting the stack gas probe. Also, as has been stated previously, Norlite has been working with the Department to approve the Optical Flow Sensor Technology for measuring flow rate in the kiln system. Norlite submitted a proposal to the Department on December 24, 2013 requesting approval to make the Optical Flow Sensor the certified technology for measuring stack gas flow on Kiln 1. On January 20, 2014, the Department granted Norlite permission to submit a permit modification which once approved would make the Optical Flow Sensor the certified technology on Kiln 1. Norlite is in the process of completing the final programming to calculate the velocity into standard cubic feet per minute. Once programing it complete, the permit modification will be submitted. Please see below for a history of the work completed thus far.

Norlite has been working help resolve stack gas span cutoffs in general for almost two years. Norlite has been working with the Department to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and tested to obtain additional information to be used in future calculations. Norlite conducted an official RATA test on the optical flow sensor in Kiln 1 on November 26, 2013 which yielded very good results. The final RATA Testing report has been received by Norlite and submitted along with a proposal for implementing official use of the unit to the Department on December



## NORLITE, LLC

24, 2013. Norlite will be preparing and submitting a permit modification request for Department approval by February 21, 2014. After final approval is given for the unit on Kiln 1, Norlite will install a unit on Kiln 2 with an expedited schedule for completion which will hopefully see the unit in certified operation by the end of March 2014.

Norlite has also been working with the Department to improve LGF delivery and handling at the kilns to address these types of cutoffs. In April 2013, the Department conditionally approved Norlite's plan to remove the minimum LLGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The Department also requested a six month study be conducted without a minimum LLGF Line Pressure requirement. The study was started on May 01, 2013 and completed on October 31, 2013. Norlite conducted an extensive search for a positive displacement pump which would allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. The results of the six month study which summarized over 4 million lines of operational data between the two kilns was submitted to the DEC on December 5, 2013. Based from the results of the six month study, Norlite feels the data supports the removal of the minimum LLGF Line Pressure requirement. Norlite has concluded that a positive displacement pump which meets all the needed criteria does not exist. As stated previously, Norlite has acquired the assistance of a process engineering firm to assist in the search for a suitable positive displacement pump and conduct an overall review of the entire kiln feed system to provide a proposal for improving the kiln fuel feed system. The process engineering firm has been supplied with facility drawings, had several discussions with Norlite personnel, and taken a facility tour to better understand the facility operations as they relate to fuel delivery at the kilns. Norlite submitted a proposal provided by SPEC Engineering to the Department on December 31, 2013 for review and approval. The proposal was to use an automated control loop to control pressures and fuel flow rates at the kilns. On January 13, 2014, the Department approved the overall concept of the proposal with the requirement that additional engineering specifications be provided by certain dates for ultimate approval of the entire project.

All of the malfunctions that occurred were consistent with our Startup, Shutdown and Malfunction Plan (SSMP). As approved by the NYSDEC on February 6, 2006, these reports are being sent electronically.

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: [tom.vanvranken@tradebe.com](mailto:tom.vanvranken@tradebe.com).

Sincerely,

*Thomas Van Vranken*

Thomas Van Vranken  
Environmental Manager

### Attachments

ecc: Don Spencer, NYDEC – R4 w/attachments  
James Lansing, NYSDEC – CO w/attachments  
Joseph Hadersbeck, NYSDEC – R4w/attachments  
Jim Quinn, NYSDEC – R4 w/attachments  
Tita LaGrimas – Tradebe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
01/29/14 - 02/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
2/1/2014	14:09:09	2/1/2014	14:11:16	0:02:07	18	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
2/2/2014	11:54:17	2/2/2014	12:26:34	0:32:17	19	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/2/2014	15:09:31	2/2/2014	17:04:59	1:55:28	20	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/11/2014	9:13:23	2/11/2014	9:15:51	0:02:28	21	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/11/2014	19:59:20	2/11/2014	20:05:08	0:05:48	22	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/11/2014	20:56:34	2/11/2014	21:09:35	0:13:01	23	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/11/2014	21:28:06	2/11/2014	21:53:18	0:25:12	24	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/11/2014	22:26:02	2/11/2014	23:34:05	1:08:03	25	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/11/2014	23:40:29	2/11/2014	23:50:21	0:09:52	26	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
01/29/14 - 02/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
2/12/2014	7:58:57	2/12/2014	8:23:05	0:24:08	27	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/12/2014	13:23:29	2/12/2014	13:30:04	0:06:35	28	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/12/2014	18:33:39	2/12/2014	19:50:07	1:16:28	29	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
01/29/14 - 02/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
1/31/2014	0:13:39	1/31/2014	0:14:12	0:00:33	74	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Rear Chamber Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/31/2014	10:56:47	1/31/2014	10:57:50	0:01:03	75	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
1/31/2014	11:10:41	1/31/2014	11:21:48	0:11:07	76	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/1/2014	3:51:02	2/1/2014	3:51:33	0:00:31	77	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/1/2014	4:20:29	2/1/2014	4:20:53	0:00:24	78	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/1/2014	4:33:32	2/1/2014	5:08:21	0:34:49	79	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/1/2014	5:33:52	2/1/2014	5:34:14	0:00:22	80	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
2/1/2014	5:34:19	2/1/2014	5:34:54	0:00:35	81	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Rear Chamber Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
2/1/2014	6:10:31	2/1/2014	8:12:01	2:01:30	82	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Mist Pad Being Plugged and Water Droplets Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Was Rinsed to Restore Proper Ducon Pressures and Prevent Water Accumulation on the Mist Pad
2/1/2014	14:08:57	2/1/2014	14:14:59	0:06:02	83	Malfunction	Instantaneous Upper Instrument Setpoint Was Reached for LGF Flow Span Due to Operators Controlling Fuel Flow With Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Kiln Pressure System	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
01/29/14 - 02/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
2/10/2014	3:07:18	2/10/2014	3:10:42	0:03:24	84	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/10/2014	3:13:16	2/10/2014	3:15:48	0:02:32	85	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil While the Stack Gas Readings Settled
2/10/2014	9:02:35	2/10/2014	10:11:58	1:09:23	86	Malfunction	The Natural Gas Pilot Was Lost Which Caused a Loss of the Main Flame, Causing the CO's to Rise	Carbon Monoxide	Opl	The Kiln Was Switched to Oil While the CO HRA Came Down
2/11/2014	22:57:03	2/11/2014	23:01:38	0:04:35	87	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil Which the Stack Gas Readings Settled
2/12/2014	6:23:04	2/12/2014	6:25:31	0:02:27	88	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Moderate Winds out of the North Coupled with Cold Temperatures Caused Water Droplets to Form in the Stack and Contact the Stack gas Probe	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil While the Stack Gas Readings Settled